AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method for production of a rotor of a centrifugal compressor from a monolithic disc comprising:

working said disc in a first radial direction by at least one rotating tool of a numerical control machine, such as to remove shavings and to thereby produce partial finally contoured radial cavities ~~in the~~ encapsulated within outer surfaces of said rotor ; and

working each disc in a second radial direction, substantially opposite to said first radial direction by at least one other rotating tool of a numerical control machine such as to remove shavings and thereby produce complete, finally contoured radial cavities.

2. (Previously Presented) A method according to claim 1 wherein said first tool works, starting from an outer diameter of the said disc, until said outer partial radial cavities are produced.

3. (Previously Presented) A method according to claim 2 wherein said first tool advances with successive terracing operations, and works until an intermediate depth is reached relative to an overall width of a circular ring of the said monolithic disc.

4. (Previously Presented) A method according to claim 3 wherein said second tool works, starting from an inner diameter of the said disc, until it reaches said outer partial cavities.

5. (Previously Presented) A method according to claim 4 wherein said first tool and the said second tool are the same tool of the said numerical control machine.

6. (Previously Presented) A method according to claim 4 wherein said first tool and said second tool work simultaneously, the said tools being arranged on two axes which are controlled by at least one numerical control machine.

7. (Previously Presented) A method according to claim 1wherein said second tool works from an inner diameter of the said disc, until inner portions of the said radial cavities are produced.

8. (Previously Presented) A method according to claim 7 wherein the said second tool advances with successive terracing operations and works until an intermediate depth is reached relative to an overall width of a circular ring of the said monolithic disc.

9. (Previously Presented) A method according to claim 8 wherein said first tool works starting from an outer diameter of the said disc, until it reaches said inner portions of said cavities, thus completing the said radial cavities.

10. (Previously Presented) A method according to claim 9 wherein said first tool and said second tool are the same tool of said numerical control machine.

11. (Previously Presented) A method according to claim 6 wherein before working with the said tools, a preliminary stage is activated in order to ascertain whether there will be superimpositions of said first and second tools during working.

12. (Previously Presented) A method according to claim 11 wherein in the event of superimpositions, an abnormality is indicated, interrupting a working programme of the numeral control machine.

13. (Previously Presented) A method according to claim 1wherein said first and second tools are used in succession, starting with the shortest in length.

14. (Currently Amended) A method according to claim 1 wherein ~~said first tool comprises a blade, and a~~ diameter of the said first tool is selected according to a radius of connection at the base of the blade.

15. (Canceled)

16. (Previously Presented) A method according to claim 1 wherein after a first stage of removing shavings is carried out with a single inclination of an axis of the said tool until a maximum depth is reached, a command is transmitted to take said tool to a different inclination.

17. (Currently Amended) A method according to claim 16 wherein said different inclination is implemented by a numerical control machine which has five controlled axes.

18. (Previously Presented) A method according to claim 1, wherein after the said working to remove shavings, the said rotor is subjected to heat treatment.

19. (Previously Presented) A method according to claim 18 wherein said heat treatment is followed by stages of checking of the dimensions, balancing, and dynamic checking of the said rotor.

20. (Previously Presented) A method according to claim 1 wherein said rotor is made of steel.

21. (Canceled)